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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,528	12/20/2005	Hiroshi Taniuchi	01272.020678	9818

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EXAMINER

DUBNOW, JOSHUA M

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2861

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/561,528	Applicant(s) TANIUCHI ET AL.	
	Examiner Joshua M. Dubnow	Art Unit 2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 26-40 is/are pending in the application.
- 4a) Of the above claim(s) 28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 26, 27, and 29-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____ |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :12/14/2007, 10/05/2007, 04/27/2007, 05/04/2006, 12/20/2005.

DETAILED ACTION

Receipt is acknowledged of applicant's response filed October 5, 2007. Claim(s) 1-25 have been canceled without prejudice. Claim(s) 26-40 are pending, and an action on the merits is as follows.

Election/Restrictions

1. Applicant's election without traverse of Group I, Species A, and Species a in the reply filed on October 5, 2007 is acknowledged.
2. Claim 28 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on October 5, 2007.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 26, 30-32, 34, 35, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ushirogouchi et al. (U.S. Publication # 2003/0231234)** in view of **Katsuragi et al. (U.S. Publication # 2002/0041316)**.

Considering **claim 26**, Ushirogouchi et al. discloses an image forming method (Figure 10) comprising the steps of making the surface of an intermediate transfer body (18a) hydrophilic by processing through the application of energy (paragraphs 0215, 0223). An image is formed on the transfer body by ejecting ink from ink jet printing means (4) (paragraphs 0184, 0189) and then transferred onto a recording medium (2) (paragraphs 0214-0216).

Ushirogouchi et al. fails to specifically disclose applying a liquid on the intermediate transfer body that reduces the fluidity of the ink.

However, Katsuragi et al. teaches an ink jet recording apparatus that applies a liquid (804) onto the recording medium (803) that increases the viscosity of the ink making it less fluid (paragraphs 0056, 0061, 0084).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the image forming method of Ushirogouchi et al. with the teaching of Katsuragi et al. to apply the liquid onto the intermediate transfer body that has become hydrophilic. This would lead to better image quality by increasing fixing and preventing bleeding.

Considering **claim 30**, and as applied to claim 26 above, Ushirogouchi et al. discloses that energy is applied to the intermediate transfer body to make the surface hydrophilic (paragraphs 0215, 0223).

Considering **claim 31** and **claim 32**, and as applied to claim 26 above, Katsuragi et al. further teaches that the liquid that decreases the fluidity of the ink contains a

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component, specifically metal ions, for coagulating a colorant of the ink (paragraphs 0056, 0061, 0084).

Considering **claim 34**, and as applied to claim 26 above, Ushirogouchi et al. discloses a heater (6) near the intermediate transfer body that would promote the removal of water from the ink on the transfer body prior to transferring the image onto the recording medium (Figure 10).

Considering **claim 35**, and as applied to claim 26 above, Ushirogouchi et al. discloses a step of cleaning the surface of the intermediate transfer body (cleaner 20, Figure 10, paragraphs 0214, 0218).

Considering **claim 38**, Ushirogouchi et al. discloses an image forming method (Figure 10) comprising the steps of making the surface of an intermediate transfer body (18a) hydrophilic by processing through the application of energy (paragraphs 0215, 0223). An image is formed on the transfer body by ejecting ink from ink jet printing means (4) (paragraphs 0184, 0189) and then transferred onto a recording medium (2) (paragraphs 0214-0216).

Ushirogouchi et al. fails to specifically disclose applying a liquid on the intermediate transfer body that reduces the fluidity of the ink.

However, Katsuragi et al. teaches an ink jet recording apparatus that applies a liquid (804) onto the recording medium (803) that increases the viscosity of the ink making it less fluid (paragraphs 0056, 0061, 0084).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the image forming method of Ushirogouchi et al.

with the teaching of Katsuragi et al. to apply the liquid onto the intermediate transfer body that has become hydrophilic. This would lead to better image quality by increasing fixing and preventing bleeding.

5. Claims 27, 29, 36, 37, 39, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ushirogouchi et al. (U.S. Publication # 2003/0231234)** in view of **Katsuragi et al. (U.S. Publication # 2002/0041316)** further in view of **Uehara et al. (U.S. Publication # 2003/0068571)**.

Considering **claim 27**, and as applied to claim 26 above, Ushirogouchi et al. as modified by Katsuragi et al. discloses an image forming method comprising all of the claimed limitations discussed above.

Ushirogouchi et al. as modified by Katsuragi et al. fails to disclose explicitly that the surface of the transfer body contains a fluorine or silicone compound.

However, Uehara et al. teaches a method for forming an image where an intermediate transfer body is used that has a surface containing a silicone or fluorine compound (paragraph 0102).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the image forming apparatus of Ushirogouchi et al. with the teaching of Uehara et al. so that the intermediate transfer body has a silicone or fluorine compound surface in order to easily and reliably transfer the printed image from the transfer surface to the recording medium.

Considering **claim 29**, and as applied to claim 26 above, Uehara et al. further teaches that energy is applied to the transfer medium (16) and that the process performs plasma processing (paragraph 0203) at atmospheric pressure. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the energy application process of Ushirogouchi et al. with the teaching of Uehara et al. so that the intermediate transfer medium is charged to better apply another substance to the transfer surface before the ink is deposited.

Considering **claim 36**, Ushirogouchi et al. discloses an image forming method (Figure 10) comprising the steps of making the surface of an intermediate transfer body (18a) hydrophilic by processing through the application of energy (paragraphs 0215, 0223). An image is formed on the transfer body by ejecting ink from ink jet printing means (4) (paragraphs 0184, 0189) and then transferred onto a recording medium (2) (paragraphs 0214-0216).

Ushirogouchi et al. fails to specifically disclose performing plasma processing on the surface of the transfer body and applying a reactant liquid for reacting with the ink.

However, Katsuragi et al. teaches an ink jet recording apparatus that applies a liquid (804) onto the recording medium (803) that increases the viscosity of the ink making it less fluid (paragraphs 0056, 0061, 0084).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the image forming method of Ushirogouchi et al. with the teaching of Katsuragi et al. to apply the liquid onto the intermediate transfer

body that has become hydrophilic. This would lead to better image quality by increasing fixing and preventing bleeding.

In addition, Uehara et al. further teaches that energy is applied to the transfer medium (16) and that the process performs plasma processing (paragraph 0203). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the energy application process of Ushirogouchi et al. with the teaching of Uehara et al. so that the intermediate transfer medium is charged to better apply another substance to the transfer surface before the ink is deposited.

Considering **claim 37**, Ushirogouchi et al. discloses an image forming method (Figure 10) comprising the steps of making the surface of an intermediate transfer body (18a) hydrophilic by processing through the application of energy (paragraphs 0215, 0223). An image is formed on the transfer body by ejecting ink from ink jet printing means (4) (paragraphs 0184, 0189) and then transferred onto a recording medium (2) (paragraphs 0214-0216).

Ushirogouchi et al. fails to specifically disclose performing plasma processing on the surface of the transfer body that contains fluororubber or silicone rubber and applying a liquid for coagulating a colorant of the ink.

However, Katsuragi et al. further teaches an inkjet recording apparatus that applies a liquid (804) onto the recording medium (803) that contains a component, specifically metal ions, for coagulating a colorant of the ink (paragraphs 0056, 0061, 0084).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the image forming method of Ushirogouchi et al. with the teaching of Katsuragi et al. to apply the liquid onto the intermediate transfer body that has become hydrophilic. This would lead to better image quality by increasing fixing and preventing bleeding.

In addition, Uehara et al. further teaches that energy is applied to the transfer medium (16) and that the process performs plasma processing (paragraph 0203). The intermediate transfer body has a surface containing a silicone of fluorine compound (paragraph 0102). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the energy application process of Ushirogouchi et al. with the teaching of Uehara et al. to better apply another substance to the transfer surface before the ink is deposited and to easily and reliably transfer the printed image from the transfer surface to the recording medium.

Considering **claim 39**, Ushirogouchi et al. discloses an image forming method (Figure 10) comprising the steps of making the surface of an intermediate transfer body (18a) hydrophilic by processing through the application of energy (paragraphs 0215, 0223). An image is formed on the transfer body by ejecting ink from ink jet printing means (4) (paragraphs 0184, 0189) and then transferred onto a recording medium (2) (paragraphs 0214-0216).

Ushirogouchi et al. fails to specifically disclose applying a reactant liquid on the intermediate transfer body for reacting with the ink.

However, Katsuragi et al. teaches an ink jet recording apparatus that applies a liquid (804) onto the recording medium (803) that reacts with and increases the viscosity of the ink making it less fluid (paragraphs 0056, 0061, 0084).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the image forming method of Ushirogouchi et al. with the teaching of Katsuragi et al. to apply the liquid onto the intermediate transfer body that has become hydrophilic. This would lead to better image quality by increasing fixing and preventing bleeding.

In addition, Uehara et al. further teaches that energy is applied to the transfer medium (16) and that the process performs plasma processing (paragraph 0203). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the energy application process of Ushirogouchi et al. with the teaching of Uehara et al. so that the intermediate transfer medium is charged to better apply another substance to the transfer surface before the ink is deposited.

Considering **claim 40**, and as applied to claim 39, Uehara et al. teaches that the intermediate transfer body has a surface containing a silicone of fluorine rubber (paragraph 0102).

6. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Ushirogouchi et al. (U.S. Publication # 2003/0231234)** in view of **Katsuragi et al. (U.S. Publication # 2002/0041316)** further in view of **Koyano et al. (U.S. Publication # 2003/0064206)**.

Considering **claim 33**, and as applied to claim 31 above, Ushirogouchi et al. as modified by Katsuragi et al. discloses an image forming method comprising all of the claimed limitations discussed above,

Ushirogouchi et al. as modified by Katsuragi et al. fails to disclose a step of applying a second liquid for improving the wettability of the surface of the intermediate transfer body.

However, Koyano et al. teaches an image recording method with a step of applying a pretreatment liquid to a recording material that increases the wettability of the material (paragraph 0146).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the image forming method of Ushirogouchi et al. and Katsuragi et al. to include a step of applying a liquid to the intermediate transfer body at the appropriate time in order to ensure high image density and water resistance to improve the quality of images formed.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Taniuchi et al. (U.S. Publication # 2005/0110855), Katsuragi et al. (U.S. Patent # 6,827,434), Koitabashi et al. (U.S. Patent # 6,527,385), Jones et al. (U.S. Patent # 5,805,191), Snyder (U.S. Publication # 2003/0103123), Koyama et al. (U.S. Patent # 7,278,725), Kreutzkamper et al. (U.S. Publication # 2003/0020802),

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Mallsion et al. (U.S. Publication # 2001/0028992), Asano et al. (U.S. Patent # 6,318,853).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua M. Dubnow whose telephone number is 571-270-1337. The examiner can normally be reached on Monday-Friday, 8:30-5:00.

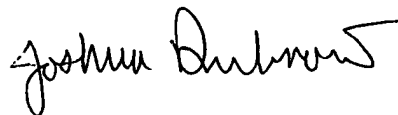
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Luu can be reached on 571-272-7663. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



MATTHEW LUU
SUPERVISORY PATENT EXAMINER



Joshua M Dubnow
Examiner
Art Unit 2861

December 19, 2007